

Sacramento River Water Quality – Synthesis of Historic and Current Information

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Public Comments

No public comments were received for this proposal.

Technical Synthesis Panel Review

Proposal Title

#0325: Sacramento River Water Quality – Synthesis of Historic and Current Information

Final Panel Rating
inadequate

Technical Synthesis Panel (Primary) Review

TSP Primary Reviewer's Evaluation Summary And Rating:

This a very short proposal with a relatively modest budget. It addresses a need identified by the Science Program. The three principal data accumulation tasks are: collection of historical water quality data on the Sacramento River system from the headwaters to Rio Vista; collection of information on contemporary monitoring activities; and analysis of these data to determine trends in water quality. Task 4 will identify the parameters for which insufficient information is available. Reviewers agree that the project description gives very little detailed information about the proposed project, neglecting critical issues such as what criteria will be used to determine the quality of the data. One external reviewer notes: "An analysis plan was not provided to indicate how the obtained information will be interpreted (statistical measures to describe the data, statistical tests to determine conclusions, etc).." Another simply notes: "The approach is incomplete and does not provide enough information for the reviewer to know if the approach is appropriate for meeting the objectives of the project." Another reviewer notes that the three year budget period is too long and the qualifications of the investigators other than the PI are not clear. Overall the authors do not appear to have taken the task of preparing the proposal seriously. Overall ratings of the three external reviewers were good, fair and poor.

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Additional Comments:

This a very short proposal with a relatively modest budget. It addresses a need identified by the Science Program. The three principal data accumulation tasks are: collection of historical water quality data on the Sacramento River system from the headwaters to Rio Vista; collection of information on contemporary monitoring activities; and analysis of these data to determine trends in water quality. Task 4 will identify the parameters for which insufficient information is available. Reviewers agree that the project description gives very little detailed information about the proposed project, neglecting critical issues such as what criteria will be used to determine the quality of the data. One external reviewer notes: "An analysis plan was not provided to indicate how the obtained information will be interpreted (statistical measures to describe the data, statistical tests to determine conclusions, etc).." Another simply notes: "The approach is incomplete and does not provide enough information for the reviewer to know if the approach is appropriate for meeting the objectives of the project." Another reviewer notes that the three year budget period is too long and the qualifications of the investigators other than the PI are not clear. Overall the authors do not appear to have taken the task of preparing the proposal seriously. Overall ratings of the three external reviewers were good, fair and poor.

Technical Synthesis Panel (Discussion) Review

TSP Observations, Findings And Recommendations:

The external technical reviews and the panel agreed that the proposal does not contain sufficient detail to allow an evaluation of critical issues, particularly the criteria used to assure the quality of the historical and contemporary databases. Therefore, the panel had serious concerns regarding potential technical deficiencies in the proposed work, and considerable uncertainty regarding the contribution of the proposed work to our knowledge and understanding.

Technical Review #1

proposal title: Sacramento River Water Quality – Synthesis of Historic and Current Information

Review Form

Goals

Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the idea timely and important?

Comments	The goals are clearly stated and the idea is timely and important, but the specific objectives and products are either vague or missing detail. This reviewer would have liked to have known the procedures and methodologies by which the applicant will compare and analyze the collected water quality data. This information was missing.
Rating	good

Justification

Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

Comments	The study is justified and a very brief conceptual model is stated in the proposal. However, as noted above, the justification and implementation are not explained in sufficient detail to provide a good understanding of how the applicant will conduct the study.
Rating	good

Technical Review #1

Approach

Is the approach well designed and appropriate for meeting the objectives of the project? Is the approach feasible? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology, or approaches? Will the information ultimately be useful to decision makers?

Comments	The approach is incomplete and does not provide enough information for the reviewer to know if the approach is appropriate for meeting the objectives of the project. The results could add to the base of knowledge, but there is little to indicate that the applicant has thought through the specifics of how the water quality data will be analyzed, stored, and presented.
Rating	fair

Feasibility

Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives and within the grasp of authors?

Comments	The approach is not fully documented and it is unknown if it is technically feasible. Due to the lack of information on how the approach will be implemented it is impossible to judge the likelihood of success, but it is hoped that the applicant has a better grasp of the project tasks than he has of writing this application.
Rating	fair

Monitoring

If applicable, is monitoring appropriately designed (pre–post comparisons; treatment–control comparisons)? Are there plans to interpret monitoring data or otherwise develop information?

Comments	The focus of this project is interpreting and presenting water quality monitoring data. Exactly how
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Technical Review #1

	this work will be accomplished is lacking in the application. No new monitoring is included in the project scope.
Rating	fair

Products

Are products of value likely from the project? Are contributions to larger data management systems relevant and considered? Are interpretive (or interpretable) outcomes likely from the project?

Comments	Products from this project will be a database of Sacramento River water quality data from multiple sources, locations, and times. This could be very valuable. But a lack of analytical and data management details leads this reviewer to question the applicant's ability to produce a product that will be of value to others.
Rating	good

Additional Comments

Comments

Capabilities

What is the track record of authors in terms of past performance? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

Comments	The principal investigator appears to have the background and qualifications to successfully manage this project. Insufficient information is presented for the rest of the project team to make a judgement of their qualifications. No information is presented on the availability of an infrastructure and other aspects of support necessary to accomplish the project.
Rating	

Technical Review #1

	good
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Budget

Is the budget reasonable and adequate for the work proposed?

Comments	The budget of \$277K appears to be reasonable and adequate for the work proposed. Note that there is no mention of costs associated with maintaining the water quality database once it is created.
Rating	very good

Overall

Provide a brief explanation of your summary rating.

Comments	It appears that this application was prepared without much thought to the details involved with the successful completion of the project. That does not give this reviewer a high degree of assurance that the applicant understands all of the issues faced with the assembly of water quality data from a variety of sources, appropriate QA/QC, and analysis of the data to identify trends, data gaps, etc.
Rating	fair

Technical Review #2

proposal title: Sacramento River Water Quality – Synthesis of Historic and Current Information

Review Form

Goals

Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the idea timely and important?

Comments	The goals, objectives and hypotheses were not clearly stated, therefore they cannot be internally consistent. The ideas presented are timely and important, but poorly conveyed.
Rating	fair

Justification

Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

Comments	The study is justified relative to existing knowledge. There is clearly a need to assemble data sets to arrive at a comprehensive picture of water quality in the Sacramento River through time. There is no conceptual model stated in the proposal; this is a deficiency. The project goals are justified, but poorly stated.
Rating	fair

Technical Review #2

Approach

Is the approach well designed and appropriate for meeting the objectives of the project? Is the approach feasible? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology, or approaches? Will the information ultimately be useful to decision makers?

Comments	<p>The approach is poorly designed, therefore inappropriate for meeting the objectives of the project. Since there is no clear approach presented, I cannot comment of the feasibility of the approach. The results would likely to add to the base of knowledge. The project would provide a clearinghouse of information on water quality studies on the Sacramento River. Such a product would be useful to decision makers.</p> <p>There is no timeline given, and no description of data analyses to be performed. There is no description of how the quality of the data will be assessed.</p>
Rating	poor

Feasibility

Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives and within the grasp of authors?

Comments	<p>The approach poorly documented, and technical feasibility is therefore impossible to assess. I cannot state the likelihood of success due to the poor description of activities proposed. While the authors may be well-qualified to conduct the study, I cannot say whether or not they would be successful because they simply did not effectively state what exactly they proposed to do!</p>
Rating	poor

Technical Review #2

Monitoring

If applicable, is monitoring appropriately designed (pre–post comparisons; treatment–control comparisons)? Are there plans to interpret monitoring data or otherwise develop information?

Comments	n/a
Rating	not applicable

Products

Are products of value likely from the project? Are contributions to larger data management systems relevant and considered? Are interpretive (or interpretable) outcomes likely from the project?

Comments	The products produced by the study would likely be of value. Contributions to larger data management systems are relevant, but not effectively conveyed. Data analysis is simply not described at all, which is a serious flaw in the proposal.
Rating	fair

Additional Comments

Comments	The executive summary reads as a rambling string of sentences with no structure. In addition, what are all the potential agencies/entities that will the authors contact? A few names are tossed out, but not in a cogent manner. A table is needed. Finally, I would encourage the authors to discuss how other agencies would potentially use this data. A thorough metadata description is also needed; is this what is meant by an "annotated bibliography"?
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Capabilities

What is the track record of authors in terms of past performance? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

Technical Review #2

Comments	While the chief author is certainly capable of managing the project, I have no idea of the capabilities of the secondary authors. What are their qualifications? How would I know if they had any prior experience with handling and analyzing data? No such published record was included.
Rating	fair

Budget

Is the budget reasonable and adequate for the work proposed?

Comments	Is the budget reasonable and adequate for the work proposed? Tasks 1 and 2 are not mutually exclusive; if one is contacting an agency to acquire historic information, it certainly seems logical that one would ask them for their current water quality monitoring program details. Hence the \$100K for Task 1 and \$73K for Task 2 should be combined. Three years of funding is much too long for the ideas proposed; two years is more reasonable.
Rating	fair

Overall

Provide a brief explanation of your summary rating.

Comments	This proposal fails because nothing is clearly proposed.
Rating	poor

Technical Review #3

proposal title: Sacramento River Water Quality – Synthesis of Historic and Current Information

Review Form

Goals

Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the idea timely and important?

Comments	The goals and objectives are laudable. The idea of an overall compilation of this river basin's water quality is important to form a base understanding from which other research can proceed. I think one of the most important objectives will be the identification of gaps where insufficient information exists. This will allow future researchers to understand the limitations of current knowledge and direct efforts to obtain the needed information.
Rating	very good

Justification

Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

Comments	The need for this compilation is justified; however, I'm surprised that much of this work has not been accomplished under previous Clean Water Act Section 305b Reports and USGS NAWQA studies. Not knowing the extent to which previous reports may or may not have accomplished this purpose has me at a disadvantage, but I feel that the proposal could have made more mention of the failings of previous reports and studies and why they did not accomplish what is
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Technical Review #3

	proposed. This would have enhanced the project's justification.
Rating	good

Approach

Is the approach well designed and appropriate for meeting the objectives of the project? Is the approach feasible? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology, or approaches? Will the information ultimately be useful to decision makers?

Comments	Other than stating various groups that potentially have water quality information will be contacted to obtain the information and that this collection will be summarized and evaluated, the proposal is very vague on the details of how this will be accomplished. In general terms, I would agree that this approach is heading in the right direction, but I do not know how diligent they will be in going after the information. Much data will be available on publicly accessible data storage sites for "data mining", but some will not have been stored. Will the data and information be evaluated prior to assessment as to the appropriateness of its use? What QA/QC measures will be employed, or will they assume it is all good information? More discussion of these aspects would have helped. That being said, the information developed from this effort will be very useful to future decision makers and researchers, as it should provide a comprehensive baseline of water quality knowledge.
Rating	fair

Technical Review #3

Feasibility

Is the approach fully documented and technically feasible? What is the likelihood of success?
Is the scale of the project consistent with the objectives and within the grasp of authors?

Comments	Their approach is not fully documented. It is most likely feasible if they are careful to QA/QC the obtained information and do not try to derive conclusions beyond the data's capabilities to provide. The proposal did not state (although the author may recognize) that disparate data sources might not be able to be combined to make unified conclusions. Study designs, purposes, method of analyses and reporting, detection levels, etc. all need to be considered when pooling information for a common purpose, especially if historical trends are sought. If combining traditional pollutant measures and loadings with aquatic biology data, what techniques will be used to tease out the impacts due to the contaminants as opposed to those due to habitat, hydrology, climatic variations, etc? Because the proposal did not discuss these limitations, I am not sure that the intended final conclusions will reflect what the data are truly able to tell us.
Rating	fair

Monitoring

If applicable, is monitoring appropriately designed (pre–post comparisons; treatment–control comparisons)? Are there plans to interpret monitoring data or otherwise develop information?

Comments	No active monitoring will be conducted. However, the proposal should have provided information at least recognizing that QA/QC measures will need to be employed to insure the data are worth assessing. Of the standard data quality measures (completeness, comparability, precision, accuracy, and representativeness), comparability will be problematic because of the disparate sources. An analysis plan was
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Technical Review #3

	not provided to indicate how the obtained information will be interpreted (statistical measures to describe the data, statistical tests to determine conclusions, etc), although I would consider this information to be more detailed than required in this proposal.
Rating	fair

Products

Are products of value likely from the project? Are contributions to larger data management systems relevant and considered? Are interpretive (or interpretable) outcomes likely from the project?

Comments	The final report(s) from this project should be invaluable in guiding future research dealing with water quality of this river basin. Although the conclusions derived from existing information should provide an excellent contemporary and historical description of the river, the annotated bibliography, the identification of what information exists, and the identification of information gaps will be most useful in the future.
Rating	very good

Additional Comments

Comments	Although not mentioned, I would hope that identified data sources that are not found on publicly accessible databases, would be migrated to the extent possible into such a system. This would make future research efforts less burdensome from the standpoint of gathering what we already know. This could potentially end up being a much bigger endeavor than the author envisioned because of the disparate sources of information that he will attempt to collect and combine (has he attempted more that is reasonable?).
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Technical Review #3

Capabilities

What is the track record of authors in terms of past performance? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

Comments	I have no knowledge of the author or his staff. However, his CV indicates he has the background and qualifications to undertake this project.
Rating	very good

Budget

Is the budget reasonable and adequate for the work proposed?

Comments	Assuming they must go out and find data and information from several disparate sources, determine the appropriateness of those data (QA/QC), array and analyze, the budget seems reasonable. My first thought was that it was high, but given the considerable legwork involved, it is in the ballpark.
Rating	very good

Overall

Provide a brief explanation of your summary rating.

Comments	Assuming the author 1) understands the QA/QC difficulties presented by this project and can overcome them, and 2) does not try to make the data provide conclusions that it cannot, this project should provide a valuable baseline compilation of the Sacramento River's water quality. However, the proposal did not provide information that allows me to make this assumption. Lacking this assumption, I cannot provide an overwhelming endorsement of this project and give it a middle-of-the-pack rating. Had the proposal discussed these issues, it would have
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Technical Review #3

	rated higher.
Rating	good